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SB SAT @ AMSAT $ANS-121.01
ARSENE LAUNCH RESCHEDULED

HR AMSAT NEWS SERVICE BULLETIN 121.01 FROM AMSAT HQ
SILVER SPRING, MD MAY 1, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-121.01

ASTRA-1C Antenna Repaired And ARSENE Launch Scheduled For 11-MAY-93

According to the latest information received from Bernard Pidoux (F6BVP), the launch of the ARSENE amateur radio satellite has now been scheduled for 11-MAY-93 with the launch window opening at 00:52 UTC and closing at 01:50 UTC. At the present times discussions are underway to have WA3NAN re-broadcast the launch audio. However, this has not been confirmed yet. Please stay tuned to AMSAT HF/VHF nets and the AMSAT News Service (ANS) bulletins for further information on the launch of ARSENE satellite.

[The ANS would like to thank Bernard Pidoux (F6BVP), Vice President for International Public Relations for the "Amateur Radio Club of Space (RACE)" for the information which went into this bulletin item.]

/EX
SB SAT @ AMSAT $ANS-121.02
STS-55 MISSION PROCEEDING WELL

HR AMSAT NEWS SERVICE BULLETIN 121.02 FROM AMSAT HQ
SILVER SPRING, MD MAY 1, 1993
TO ALL RADIO AMATEURS BT
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STS-55/SAREX Mission Proceeding Well; SAREX PACKET ROBOT IN OPERATION

The Shuttle Columbia lifted-off this past week with seven astronauts that included 5 licensed radio amateurs aboard along with the Shuttle Amateur Radio Experiment (SAREX). The Shuttle Columbia made a "picture-perfect" lifted-off on 26-APR-93 at 14:50 UTC on its 8 day and 22 hour science mission. This mission will utilize a SAREX payload configuration with 2M voice and packet combination. According to Frank Bauer (KA3HDO), the crew of STS-55 has been given permission to turn on the packet radio "robot" for continuous operations at this point in the STS-55 mission. The following are the uplink and downlink frequencies for the packet station that will use the station call of W5RRR-1:

Downlink: 145.550 MHz
Uplink: 144.499 MHz

Please listen on the downlink frequency for Shuttle packet activity BEFORE sending uplink packets.

The following are the latest keplerian elements for the STS-55/SAREX mission:

STS-55
1 22640U 93 27 A 93120.62020368 0.00044855 00000-0 12708-3 0 131
2 22640 28.4606 239.1107 0011268 287.1577 72.7801 15.91747408 652

Satellite: STS-55

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 Catalog number: 22640
 Epoch time:      93120.62020368         (01-MAY-93 14:53:05.60 UTC)
 Element set:     GSFC-013
 Inclination:       28.4606 deg
 RA of node:       239.1107 deg          Space Shuttle Flight STS-55
 Eccentricity:    0.0011268                  Keplerian Elements
 Arg of perigee:   287.1577 deg
 Mean anomaly:      72.7801 deg
 Mean motion:   15.91747408 rev/day       Semi-major Axis: 6675.5251 Km
 Decay rate:     4.4485E-04 rev/day^2     Apogee  Alt:        304.66 Km
 Epoch rev:              65               Perigee Alt:        289.62 Km
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The 2M FM voice downlink for the SAREX station is on 145.550 MHz. The following table lists the 2M FM voice uplinks:

Uplinks are:	Voice
Europe	144.80
	144.75
	144.70
Rest of World	144.99
	144.97
	144.95
	144.93
	144.91

For those who have been monitoring the Shuttle voice communications from WA3NAN will note that there is a possibility that the STS-55 mission could be extended another day. Please monitor WA3NAN's shuttle "re-broadcasts," the AMSAT HF/VHF nets, and ARRL bulletins for announcements concerning a one day extension of the mission.

[The AMSAT News Service (ANS) would like to thank Frank Bauer (KA3HDO) of the SAREX Working Group for this bulletin item.]

/EX
SB SAT @ AMSAT $ANS-121.03
AMSAT OPS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 121.03 FROM AMSAT HQ
SILVER SPRING, MD MAY 1, 1993
TO ALL RADIO AMATEURS BT
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AMSAT Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode B Nets are conducted on AO-13 on a downlink frequency of 145.950 MHz and Mode J/L on a downlink of 435.970 MHz.

Date	UTC	Mode	Phs	NCS	Alt NCS
9-May-93	0030	B	65	W5IU	WA5ZIB
15-May-93	2030	B	148	WJ9F	VE2LVC
23-May-93	0030	B	156	VE2LVC	W9ODI

Any stations with information on current events would be most welcome. Also, those interested in discussing technical issues or who have questions about any particular aspect of OSCAR statellite operations are encouraged to join the OPS Nets. In the unlikely event that either the Net Control Station (NCS) or the alternate do not call on frequency, any participant is invited to act as the NCS.

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Slow Scan Television on AO-13

SSTV sessions will be held on Saturdays and Sundays UTC:

Mode J	Downlink 435.980 MHz
Mode B after J	Downlink 145.960 MHz

OPS NETS will take priority, look for SSTV activity immediately after the net. SSTVer's are invited to join the Net to make schedules at other times if desired.

/EX
SB SAT @ AMSAT $ANS-121.04
PHASE-3D MODE-B DISCUSSION

HR AMSAT NEWS SERVICE BULLETIN 121.04 FROM AMSAT HQ
SILVER SPRING, MD MAY 1, 1993
TO ALL RADIO AMATEURS BT
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AMSAT-NA President Clarifies Phase-3D Mode-B Issue

Bill Tynan (W3XO), AMSAT-NA President, reports that a 2M downlink transmitter remains in the suite of equipment planed for the Phase-3D satellite However, a group or individual willing and qualified to design and build a suitable transmitter has yet to be identified.

Recent reports, including an 24-APR-93 AMSAT News Service (ANS) bulletin item quoted Freddie de Guchteneire (ON6UG), the IARU Satellite Frequency Coordinator, reporting on the a meeting recently held in Munich, in which no mention was made of 2M downlink frequencies. In the Phase-3D architecture, involving separate receivers and transmitters rather than dedicated transponders, a 70CM receiver connected through the IF matrix to a 2M transmitter would form the equivalent of what we know as Mode-B on Oscars 10 and 13.

Despite these reports, ANS has since learned that the International Phase 3-D Development Team has made no official decision to eliminate the 2M downlink from the satellite. According to Tynan, "what was covered at the Munich meeting represented technical discussions regarding equipment for which specific responsibilities had been assigned. Since a specific builder for a 2M transmitter has not yet be identified, there was thus no 2M frequencies were mentioned."

"The rest of the story", says Tynan, "is that due to the extreme overcrowding and interference on the 2M band, especially in highly populated parts of the world such as Europe and the Far East, there is less interest in a Mode-B style frequency combination by amateurs in those areas than is true in the U.S. and less populated areas." Bill goes on to note that, "for this reason, design, construction and testing of a 2M downlink transmitter for Phase-3D has been the responsibility of those of us in North America for some time."

He continued, saying that "a slot in the IF matrix for a 2M transmitter remains and high gain 2M antennas are being designed and tested on an antenna range."

However, Bill stresses that, "no individual or group has yet stepped forward, either from North America, or elsewhere, with a firm commitment to take on the task of designing, fabricating and testing a 2M transmitter capable of flying on Phase-3D." Nevertheless, he continues, "we continue to seek a qualified builder. Several attractive prospects presented themselves at the recently completed Dayton Hamvention. The Phase 3D Design Team is in the process of establishing appropriate criteria for

evaluating the capability and commitment of any potential 2M construction groups or individuals." Bill emphasized, however, that, "flight hardware is needed in 600 days so, unless a suitable group or individual can be identified within the next few weeks, there will not be a 2M downlink in Phase-3D. It's pretty hard to have a downlink, if you don't have a transmitter" he commented.

"The ball is clearly in our court to produce", said Tynan. "I remain optimistic that a qualified builder will step forward in time to insure one of our most popular modes will be available on the new satellite." Tynan concluded his remarks by saying that "he is ready and eager to listen to any group or individual, with solid state VHF RF design experience willing to take on this rather demanding task. But time is fast running out", he added.

[The AMSAT News Service (ANS) would like to thank Keith Baker (KB1SF) of the Phase-3D Development Team for the information that went into this bulletin item.]

/EX
SB SAT @ AMSAT $ANS-121.05
WEEKLY OSCAR STATUS REPORTS

HR AMSAT NEWS SERVICE BULLETIN 121.05 FROM AMSAT HQ
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Weekly OSCAR Status Reports: 01-MAY-93

AO-10: AMSAT-OSCAR-10 is still operational in Mode-B. The telemetry beacon is now a long steady tone. However, despite good signals from the Mode-B transponder, there are very few stations using the transponder. [WD4AHZ]

AO-21: The Dual-Hop (DoHop) experiments are planned from AO-21 through the RS-10 bird on 16-MAY-93 beginning at 16:22:12 UTC and closing at 16:27:32 UTC. Stations wishing to participate should uplink on CW or Lower Side Band (LSB) on AO-21 between 435.100 and 435.110 MHz and call "CQ DoHop de" your call sign. If you are not taking part in the DoHop experiments, you are asked to monitor the RS-10 signals on Mode-A. Signal reports will be appreciated. In your signal reports, please note the time in UTC, frequency, and the location of the station heard. Please send your reports to W2RS @ WA2SNA.#NJ.USA.NA or to G0NKA @ GB7DTX.GBR.EU. [G0NKA]

FO-20: The FO-20 Ground Control Station, JJ1ZUT, announced that FO-20's operational schedule during the month of May will be as follows:

    Analog Mode Operation(in UTC):
    May 12 11:52 <---> May 13 10:20
    May 19 10:20 <---> May 20 10:40
    May 26 10:50 <---> May 27 11:08

At all other times, the Mode-J Bulletin Board System (BBS) will be in operation. [JJ1WTK/3]

AO-16: Operating normally. [WH6I]

LO-19: Operating normally. [WH6I]

UO-22: Operating normally. [WH6I]

KO-23: Operating normally. Lots of new earth images. [WH6I]

AO-13: Transponder Change and attitude adjustment:

M QST *** AO-13 TRANSPONDER SCHEDULE *** 1993 May 10 - May 31
Mode-B : MA   0 to MA 180 !
Mode-S : MA 180 to MA 190 !<- S transponder; B Transponder. is OFF!
Mode-LS : MA 190 to MA 195 !<- S beacon + L Transponder
Mode-JL : MA 195 to MA 210 !   Blon/Blat 210/0
Mode-B : MA 210 to MA 256 !
Omnis   : MA 250 to MA 60 ! Move to attitude 120/0, May 31
Please don't uplink to Mode-B, MA 180-190, as this interferes with Mode-S.
[G3RUH/DB2OS/VK5AGR]

RS-12: G3IOR reports MANY fantastic "sub-horizon" DX contacts he has made between his QTH and JA stations, W4's, W6's, and UA stations. RS-12 is in Mode-K which means its uplink is in the 15M band and the downlink is in the 10M band. [G3IOR]

MIR: G3IOR reports that the DL2MDE "digital-microphone" was in operation this week transmitting a message of "greetings" to the STS-55 astronauts on a downlink frequency of 145.550 MHz. G3IOR says expect to hear the voice message once every 3 minutes. [G3IOR]

The AMSAT NEWS Service (ANS) is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this bulletin, please send your observations to WD0HHU at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, WD0HHU @ W0LJF.#NECO.CO.USA.NOAM. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

/EX
SB SAT @ AMSAT $ANS-121.06
MORE ARSENE INFORMATION

HR AMSAT NEWS SERVICE BULLETIN 121.06 FROM AMSAT HQ
SILVER SPRING, MD MAY 1, 1993
TO ALL RADIO AMATEURS BT
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More ARSENE Satellite Information In Preparation For The 11-MAY-93 Launch

The French Amateur Radio satellite Arsene is now scheduled for launch from Kourou French Guiana at 00:52 UTC 11-MAY-93. Following the launch, five to six days will be necessary to check out the new satellite before releasing it for general amateur use. Everyone is asked to please refrain from transmitting to Arsene prior to its release so that the control team has certified it open for use.

Information previously received by AMSAT-NA provides the following glimpse into what we may expect from ARSENE.

ARSENE will be in a very interesting, somewhat elliptical equatorial orbit with an apogee of 36,055 KM and a perigee of 19,629 KM. For those who would like to see what coverage of the new satellite will be like, here is a representative set of orbital elements. They will not provide specific times of AOS and LOS, but will illustrate coverage and length of access times.

Epoch Time	92 366.00000
Epoch Rev	1
Mean Anomaly	0.0000000
Mean Motion	1.37143000
Inclination	0
Eccentricity	0.240000
Argument of Perigee	0.000000

R.A.A.N. 0.000000

ARSENE will be primarily a digital satellite but will not contain a BBS. It will, however, be an orbiting digipeater, utilizing standard 1200 baud AFSK on both uplinks and downlinks. Although, it is primarily intended for digital operation, it is understood that some analog work may be possible through the 16 KHz wide Mode-S Band downlink.

Frequencies will be:

Uplinks: 435.050, 435.100 and 435.150 MHz
Downlinks: 145.975 and 2446.500 MHz

The 435.050 MHz and 435.150 MHz uplinks will be coupled to the 145.975 MHz downlink, while the 435.100 uplink will be pared with the 2446.500 MHz S Band downlink.

[The ANS would like to thank Bernard Pidoux (F6BVP), Vice President for International Public Relations for the "Amateur Radio Club of Space (RACE)" for the information which went into this bulletin item.]

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